GOVERNMENT OF INDIA
AGRICULTURE AND FARMERS WELFARE
LOK SABHA

STARRED QUESTION NO:240
ANSWERED ON:15.12.2015
Second Green Revolution
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Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) whether the Government proposes to popularize adoption of latest technology developed by agricultural scientists to being about second green revolution in the country;

(b) if so, the details of the latest developments made by agricultural Universities/Institutions in this area;

(c) the funds allocated by the Government for this purpose and success achieved so far in transfer of technology to the farmers; and

(d) the details of external assistance sought from other advanced countries and actually provided so far in this regard?

Answer

THE MINISTER OF AGRICULTURE AND FARMERS WELFARE
(SHRI RADHA MOHAN SINGH)

(a) to (d): A Statement is laid on the Table of the House.

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STATEMENT IN RESPECT OF PARTS (a) to (d) OF LOK SABHA STARRED QUESTION NO. 240 TO BE ANSWERED ON 15/12/2015 REGARDING "SECOND GREEN REVOLUTION"

(a) & (b): In order to meet the food grain requirement of the growing population of the country, the Government of India is laying emphasis on development of resource rich eastern region of the country for enhancing agricultural production. This would also help in reducing the over exploitation of natural resources in north western region, the traditional food bowl of the country. Accordingly, the Government of India launched in a programme in the year 2011-12 of "Bringing Green Revolution to Eastern India (BGREI)" −a sub scheme of Rashtriya Krishi Vikas Yojana (RKVY) in seven eastern States of Assam, Bihar, Chhattisgarh, Jharkhand, Odisha, Uttar Pradesh (East) and West Bengal. The objective of the programme is to increase the productivity of rice based cropping system by promotion of recommended agricultural technologies by addressing the underlying key constraints of different agro climatic sub regions. Central Rice Research Institute (CRRI), Cuttack has been assigned the responsibility of providing technical backstopping to the programme. A three tier monitoring structure has been created at National, State and District levels with the active involvement of agricultural scientists of Indian Council of Agricultural Research (ICAR), State agricultural Universities (SAUs) and Krishi Vigyan Kendras (KVKs).

(c) & (d): An amount of Rs. 400 crores was allocated for the programme for the years 2010-11 & 2011-12. Looking to the significant impact of the programme during the course of its implementation in last two years, the budget allocation was enhanced to Rs. 1000 crores during 2012-13. The same amount was allocated for the years 2013-14 and 2014-15. During 2015-16 an amount of Rs. 512.50 crore as central share has been earmarked for implementation of the programme.

During the last five years(2010-2014) and the current year 601 improved varieties/hybrids have been developed for different crops with regard to Cereals(340), Oilseeds(97), Pulses(88), Fibre Crops(32), Forage Crops(23), Sugar Crops(21). During the last year 2014-15 eighty one high yielding field crop varieties/hybrids having good tolerance to various biotic and abiotic stresses were released for cultivation in different agro-ecosystems of the country. These includes 19 of rice,12 wheat,6 barley, 11 maize(hybrids), 9 millets,7 oilseeds,11 pulses (including 2 of greengram,2each of pigeon pea and field pea and 1 each of black gram, chickpea, lentil; horse gram and cowpea),2 sugarcane and 4 varieties/hybrids of forage crops.

Various technologies developed include integrated pest management, plant disease management systems, biological control, seed production, protection, enhancement, certification and processing techniques, use of plant growth-promoting rhizobacteria (PGPR), plant quarantine and biosafety, induced mutation technologies, use of biotechnological tools and techniques, use of pre-breeding technologies, crop improvement through germplasm exploitation and use including wild species, production and protection technologies for rice fallows, CMS based technologies for hybrid production, augmented pollination for improved productivity, pre-harvest crop health monitoring, bio-acoustics techniques in management of crop loss etc.

A chromosome-based draft sequence of genome of bread wheat, one of the hardest crop-plants to decode due to its huge genome size and three sets of highly similar chromosomes in the genome was published by the scientists of the ICAR's National Research Centre on Plant Biotechnology, Punjab Agricultural University and Delhi University, in collaboration with the International Wheat Genome Sequencing Consortium. A new rice blast resistance gene was cloned, which confers high degree of resistance against blast. A megaspore mother cell-specific promoter FM-1 was isolated from Arabidopsis, confirmed by sequencing and cloned into

pCAMBIA 1305.2. A novel adult plant resistance (Apr) gene for leaf rust resistance was transferred from wild relative of wheat, which helped in achieving high degree of resistance to both leaf and strip rust at adult plant stage.

Two divergent lines of sheep were developed through selection. I diagnostics, a new real-time PCR assay for porcine circovirus-2 detection and loop mediated isothermal applications for detection of Babesia gibsoni infection in dogs, were developed. A methodology was developed for assaying the risk of introduction of modifiable avian influenza in India. Improved machines like sugarcane bud chip planting equipment to replace the manual method of sugarcane planting, rotary assisted raised bed former-cum-seeder, and hydraulically operated cone penetrometer for measuring soil cone indices. Novel product and technologies were developed for the reduction of post-harvest losses, utilization of by products and creation/ generation of employment opportunities etc.

Thus, major success has been achieved on adoption of new seed varieties, farm machines & implements, nutrients, pesticides and knowledge based intervention as developed for different agro-climatic zones. Essentially, the objective is to increase the crop productivity by intensive cultivation through promotion of recommended agriculture technologies and package of practices. International institutes like International Maize and Wheat Improvement Center (CIMMYT) are also working in the eastern region.

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